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**Table 1. Ara h I IgE Binding Epitopes**

EPITOPE	AA SEQUENCE	POSITION
1 (nucleotides 25-34 of SEQ ID NO:2)	AKSSPYOKKT	25-34
2 (nucleotides 48-57 of SEQ ID NO:2)	QEPDDLKOKA	48-57
3 (nucleotides 65-74 of SEQ ID NO:2)	LEYDPRLVYD	65-74
4 (nucleotides 89-98 of SEQ ID NO:2)	GERTRGRQPG	89-98
5 (nucleotides 97-106 of SEQ ID NO:2)	PGDYDDDRRQ	97-106
6 (nucleotides 107-116 of SEQ ID NO:2)	PRREEGGRWG	107-116
7 (nucleotides 123-132 of SEQ ID NO:2)	REREEDWRQP	123-132
8 (nucleotides 134-143 of SEQ ID NO:2)	EDWRRPSHQO	134-143
9 (nucleotides 143-152 of SEQ ID NO:2)	QPRKIRPEGR	143-152
10 (nucleotides 294-303 of SEQ ID NO:2)	TPGQFEDFFP	294-303
11 (nucleotides 311-320 of SEQ ID NO:2)	SYLOEFSRNT	311-320
12 (nucleotides 325-334 of SEQ ID NO:2)	FNAEFNEIRR	325-334
13 (nucleotides 344-353 of SEQ ID NO:2)	EQEERGQRRW	344-353
14 (nucleotides 393-402 of SEQ ID NO:2)	DITNPINLRE	393-402
15 (nucleotides 409-418 of SEQ ID NO:2)	NNFGKLFEVK	409-418
16 (nucleotides 461-470 of SEQ ID NO:2)	GTGNLELVAV	461-470
17 (nucleotides 498-507 of SEQ ID NO:2)	RRYTARLKEG	498-507
18 (nucleotides 525-534 of SEQ ID NO:2)	ELHLLGFGIN	525-534
19 (nucleotides 539-548 of SEQ ID NO:2)	HRIFLAGDKD	539-548
20 (nucleotides 551-560 of SEQ ID NO:2)	IDQIEKQAKD	551-560
21 (nucleotides 559-568 of SEQ ID NO:2)	KDLAFPGSGE	559-568
22 (nucleotides 578-587 of SEQ ID NO:2)	KESHFVSARP	578-587
23 (nucleotides 597-606 of SEQ ID NO:2)	PEKESPEKED	597-606

The underlined portions of each peptide are the smallest IgE binding sequences as determined by this analysis. All of these sequences can be found in SEQ ID NO 2.



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Table 2. Ara h 2 IgE Binding Epitopes

EPITOPE	AA SEQUENCE	POSITION
1 (nucleotides 15-24 of SEQ ID NO:4)	<u>HASARQQWEL</u>	15-24
2 (nucleotides 21-30 of SEQ ID NO:4)	<u>QWELOGDRRC</u>	21-30
3 (nucleotides 27-36 of SEQ ID NO:4)	<u>DRRCQSOLER</u>	27-36
4 (nucleotides 39-48 of SEQ ID NO:4)	<u>LRPCEQHLMQ</u>	39-48
5 (nucleotides 49-58 of SEQ ID NO:4)	<u>KIORDEDSYE</u>	49-58
6 (nucleotides 57-66 of SEQ ID NO:4)	<u>YERDPYSPSQ</u>	57-66
7 (nucleotides 65-74 of SEQ ID NO:4)	<u>SQDPYSPSPY</u>	65-74
8 (nucleotides 115-124 of SEQ ID NO:4)	<u>DRLOGRQOQEQ</u>	115-124
9 (nucleotides 127-136 of SEQ ID NO:4)	<u>KRELRLNPQQ</u>	127-136
10 (nucleotides 143-152 of SEQ ID NO:4)	<u>QRCDLDVESG</u>	143-152

The underlined portions of each peptide are the smallest IgE binding sequences as determined by this analysis. All of these sequences can be found in SEQ ID NO 4.

Table 3. Ara h 3 IgE Binding Epitopes

EPITOPE	AA SEQUENCE	POSITION
1 (nucleotides 33-47 of SEQ ID NO:6)	<u>IETWNPNNQEFECAG</u>	33-47
2 (nucleotides 240-254 of SEQ ID NO:6)	<u>GNIFSGFTPEFLEQA</u>	240-254
3 (nucleotides 279-293 of SEQ ID NO:6)	<u>VTVRGGLRILSPDRK</u>	279-293
4 (nucleotides 303-317 of SEQ ID NO:6)	<u>DEDEYEYDEEDRRRG</u>	303-317

The underlined portions of each peptide are the smallest IgE binding sequences as determined by this analysis. All of these sequences can be found in SEQ ID NO 6.



Table 4: Amino Acids Critical to IgE Binding of Ara h 1

EPITOPE	AA SEQUENCE	POSITION
1 (nucleotides 25-34 of SEQ ID NO:2)	AKSS P <u>Y</u> QKK T	25-34
2 (nucleotides 48-57 of SEQ ID NO:2)	QEP D <u>D</u> LKQKA	48-57
3 (nucleotides 65-74 of SEQ ID NO:2)	LE Y <u>D</u> PRLV Y D	65-74
4 (nucleotides 89-98 of SEQ ID NO:2)	GE R <u>T</u> R G RQ P G	89-98
5 (nucleotides 97-106 of SEQ ID NO:2)	PGDYDD D RRQ	97-106
6 (nucleotides 107-116 of SEQ ID NO:2)	PRRE E GGRWG	107-116
7 (nucleotides 123-132 of SEQ ID NO:2)	REREED W RQ P	123-132
8 (nucleotides 134-143 of SEQ ID NO:2)	ED W <u>R</u> RPS H Q Q	134-143
9 (nucleotides 143-152 of SEQ ID NO:2)	Q P <u>R</u> K I RPEGR	143-152
10 (nucleotides 294-303 of SEQ ID NO:2)	T P GQ F E D FFP	294-303
11 (nucleotides 311-320 of SEQ ID NO:2)	S <u>Y</u> L Q E F SRNT	311-320
12 (nucleotides 325-334 of SEQ ID NO:2)	FNA E <u>F</u> NEIRR	325-334
13 (nucleotides 344-353 of SEQ ID NO:2)	E Q EER G QRRW	344-353
14 (nucleotides 393-402 of SEQ ID NO:2)	DIT N PIN L RE	393-402
15 (nucleotides 409-418 of SEQ ID NO:2)	NNFGK L FEVK	409-418
17 (nucleotides 498-507 of SEQ ID NO:2)	R <u>R</u> Y T AR L KEG	498-507
18 (nucleotides 525-534 of SEQ ID NO:2)	EL H <u>L</u> L G FGIN	525-534
19 (nucleotides 539-548 of SEQ ID NO:2)	HRIFLAGD K D	539-548
20 (nucleotides 551-560 of SEQ ID NO:2)	IDQ I E K Q A K D	551-560
21 (nucleotides 559-568 of SEQ ID NO:2)	KDLA F <u>P</u> GS G E	559-568
22 (nucleotides 578-587 of SEQ ID NO:2)	KESHFV S ARP	578-587

Note. The Ara h 1 IgE binding epitopes are indicated as the single letter amino acid code. The position of each peptide with respect to the Ara h 1 protein is indicated in the right hand column. The amino acids that, when altered, lead to loss of IgE binding are shown as the bold, underlined residues. Epitopes 16 and 23 were not included in this study because they were recognized by a single patient who was no longer available to the study. All of these sequences can be found in SEQ ID NO 2.

**Table 5. Amino Acids Critical to IgE Binding of Ara h 2**

EPITOPE	AA SEQUENCE	POSITION
1 (nucleotides 15-24 of SEQ ID NO:4)	HASAR <u>Q</u> <u>Q</u> <u>W</u> <u>E</u> <u>L</u>	15-24
2 (nucleotides 21-30 of SEQ ID NO:4)	<u>Q</u> <u>W</u> <u>E</u> <u>L</u> <u>Q</u> <u>G</u> <u>D</u> <u>R</u> <u>R</u> <u>C</u>	21-30
3 (nucleotides 27-36 of SEQ ID NO:4)	<u>D</u> <u>R</u> <u>R</u> <u>C</u> <u>Q</u> <u>S</u> <u>Q</u> <u>L</u> <u>E</u> <u>R</u>	27-36
4 (nucleotides 39-48 of SEQ ID NO:4)	<u>L</u> <u>R</u> <u>P</u> <u>C</u> <u>E</u> <u>Q</u> <u>H</u> <u>L</u> <u>M</u> <u>Q</u>	39-48
5 (nucleotides 49-58 of SEQ ID NO:4)	<u>K</u> <u>I</u> <u>Q</u> <u>R</u> <u>D</u> <u>E</u> <u>D</u> <u>S</u> <u>Y</u> <u>E</u>	49-58
6 (nucleotides 57-66 of SEQ ID NO:4)	<u>Y</u> <u>E</u> <u>R</u> <u>D</u> <u>P</u> <u>Y</u> <u>S</u> <u>P</u> <u>S</u> <u>Q</u>	57-66
7 (nucleotides 65-74 of SEQ ID NO:4)	<u>S</u> <u>Q</u> <u>D</u> <u>P</u> <u>Y</u> <u>S</u> <u>P</u> <u>S</u> <u>P</u> <u>Y</u>	65-74
8 (nucleotides 115-124 of SEQ ID NO:4)	<u>D</u> <u>R</u> <u>L</u> <u>Q</u> <u>G</u> <u>R</u> <u>Q</u> <u>Q</u> <u>E</u> <u>Q</u>	115-124
9 (nucleotides 127-136 of SEQ ID NO:4)	<u>K</u> <u>R</u> <u>E</u> <u>L</u> <u>R</u> <u>N</u> <u>L</u> <u>P</u> <u>Q</u> <u>Q</u>	127-136
10 (nucleotides 143-152 of SEQ ID NO:4)	<u>Q</u> <u>R</u> <u>C</u> <u>D</u> <u>L</u> <u>D</u> <u>V</u> <u>E</u> <u>S</u> <u>G</u>	143-152

Note. The Ara h 2 IgE binding epitopes are indicated as the single letter amino acid code. The position of each peptide with respect to the Ara h 2 protein is indicated in the right hand column. The amino acids that, when altered, lead to loss of IgE binding are shown as the bold, underlined residues. All of these sequences can be found in SEQ ID NO 4.

Table 6. Amino Acids Critical to IgE-Binding of Ara h 3.

EPITOPE	AA SEQUENCE	POSITION
1 (nucleotides 33-47 of SEQ ID NO:6)	IETW <u>N</u> <u>P</u> <u>N</u> <u>N</u> <u>Q</u> <u>E</u> <u>F</u> <u>E</u> <u>C</u> <u>A</u> <u>G</u>	33-47
2 (nucleotides 240-254 of SEQ ID NO:6)	<u>G</u> <u>N</u> <u>I</u> <u>F</u> <u>S</u> <u>G</u> <u>F</u> <u>T</u> <u>P</u> <u>E</u> <u>F</u> <u>L</u> <u>E</u> <u>Q</u> <u>A</u>	240-254
3 (nucleotides 279-293 of SEQ ID NO:6)	<u>V</u> <u>T</u> <u>V</u> <u>R</u> <u>G</u> <u>G</u> <u>L</u> <u>R</u> <u>I</u> <u>L</u> <u>S</u> <u>P</u> <u>D</u> <u>R</u> <u>K</u>	279-293
4 (nucleotides 303-317 of SEQ ID NO:6)	<u>D</u> <u>E</u> <u>D</u> <u>E</u> <u>Y</u> <u>E</u> <u>Y</u> <u>D</u> <u>E</u> <u>E</u> <u>D</u> <u>R</u> <u>R</u> <u>R</u> <u>G</u>	303-317

Note. The Ara h 3 IgE binding epitopes are indicated as the single letter amino acid code. The position of each peptide with respect to the Ara h 3 protein is indicated in the right hand column. The amino acids that, when altered, lead to loss of IgE binding are shown as the bold, underlined. All of these sequences can be found in SEQ ID NO 6.